

United States Patent and Trademark Office  
Washington, D.C. 20231  
1/11/2010

Dear Sir/Madam:

Please find attached a DRAFT Amended Appeal Brief for Application No. 09/287,478 in response to a Notification of Non-Compliant Appeal Brief (37 CFR 41.37) with an official mailing date of 11/12/2009.

This version addresses cited problems with dependent claims in the Summary of Claimed Subject Matter and the correction of "Lawson" as appropriate. There have also been significant changes to the Arguments section, and it is hoped this might be informally reviewed for acceptability before submission.

Thank you,  
Chris Rode  
Applicant, PRO-SE 09/287,478  
6209 Stearns Hill Rd.  
Waltham, MA 02451  
781-899-4322

**NOTE: DRAFT APPEAL BRIEF ATTACHED  
NOT FOR FORMAL ENTRY**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant Name : Christian S. Rode  
Application. No. : 09 / 287,478 Confirmation No. 6350  
Applicant Docket No. : RCI001v1  
Filed : April 6, 1999  
Provisional Appl. Filed : 60/080,905, 4/06/98  
Title: : Apparatus For Evaluating And Demonstrating  
Electronic Circuits And Components  
Examiner : Thai Phan  
TC./A.U. : 2128

M/S Appeal Brief - Patents  
Honorable Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

**DRAFT APPEAL BRIEF**

(As amended 9/18/2009 and 1/11/2010)

Dear Sir or Madam:

In response to a Notice of Panel Decision from Pre-Appeal Brief Review with mailing date 7/19/2006, and subsequent Notifications of Non-compliant Appeal Brief (11/12/2009), please consider this amended Appeal Brief.

**DRAFT DRAFT DRAFT**

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**A. Real party in interest.**

All rights to and interest in this patent have been assigned to Rode Consulting, Inc., a Massachusetts Corporation, Federal Tax ID 04-3333085.

**B. Related appeals and interferences.**

The Appellant is aware of no other pending appeals and interferences regarding this application.

**C. Status of claims.**

Claims 1-16 are pending and rejected under 35 U.S.C. 103(a). The rejection of claims 1-16 is appealed in this brief.

**D. Status of amendments.**

No claims have been amended (or added) since Final Rejection.

**E. Summary of claimed subject matter.**

Applicant claims a system for simulating electronic circuits and components by means of an intrinsically stateless, file-oriented protocol such as HTTP, in conjunction with at least one element of HTTP-communicated state, a synthetic Unique Identifier. Applicant discloses specific methods to make practical the **public use** of such a system by **unregistered persons** by means of the automatic assignment of said Unique Identifier and methods that make use of the identifier to regulate use of resources. Further claimed are methods that use this Identifier to index and manage temporary files, which may be used, for example, to feed results from a circuit synthesis step forward to simulation/verification. Also claimed are various methods to regulate and log (etc.) use of resources, such as limiting total number of simulations (count or time) or lowering the process priority of said simulations.

There are three independent claims: claims 1, 10 and 15.

Independent claim 1 recites a Client-Server method for simulation over a Network by means of a Stateless Communications Protocol, such as HTTP (page 3, paragraph 4 (“A Browser is a Client Program...”). The system is a (multiple) client-(multiple) server system connected by a computer network, especially the public Internet (Fig. 1-3C, part 200) The method consists of a user visiting a web site and, in addition to the Client retrieving a web page, receives a token, a “Unique Identifier” (page 6, paragraph 2, (“Some of these differences...”),); page 8, paragraph 3 (“In generating a Unique ID...”); microfiche source code appendix, pages 19, 20, 25-26 “websi/getsessionid.pl”), that uniquely identifies the user to the server simulation system and which may be used to manage server resources or for access control.

To initiate a simulation, a Client first displays a Form, which is transmitted from the Server as Form Creation Data (e.g., HTML <FORM> and associated tags) (Fig. 4B/C; page 8, paragraph 4, (“After the ID has been generated”). A user enters data into the Client Form and then submits it to the Server, together with the previously received

Unique Identifier (Fig. 4E; page 8, paragraph 5 (“In Fig. 4C,...”)). This Form data is received by the Server and merged with other data and simulated to produce output data compatible with Client display (e.g., web browser) instructions. (page 8-9, paragraph 5, “a) The Unique ID is retrieved and checked...”; microfiche pages 21-24 (“get”), 63-4 (“websi/simulate”), 78,79,80,81, 65-7 (“websi/simulatecore.pl”)). These display instructions are then transmitted to the Client.

Independent claim 10 recites a Client-Server method for simulation over a Network by means of a Stateless Communications Protocol, such as HTTP (page 3, paragraph 4 (“A Browser is a Client Program...”)). The system is a (multiple) client-(multiple) server system connected by a computer network, especially the public Internet (Fig. 1-3C, part 200) The method consists of a user visiting a web site and, in addition to the Client retrieving a web page, is sent a token, a “Unique Identifier” (page 6, paragraph 2, (“Some of these differences...”),); page 8, paragraph 3 (“In generating a Unique ID...”); microfiche source code appendix, pages 19, 20, 25-26 “getsessionid.pl”), that uniquely identifies the user to the server simulation system.

Form Creation Data (e.g., HTML <FORM> and associated tags) is transmitted to the Client (Fig. 4B/C; page 8, paragraph 4, (“After the ID has been generated”)), and User Form Data entered into the form is submitted to a Server, (Fig. 4E; page 8, paragraph 5 (“In Fig. 4C,...”)). This Form data is received by the Server and merged with other data and simulated to produce graphical output data compatible with Client display (e.g., web browser) instructions. (page 8-9, paragraph 5, “a) The Unique ID is retrieved and checked...”; microfiche pages 21-24 (“get”), 63-4 (“simulate”), 78,79,80,81, 65-7 (“simulatecore.pl”)). This graphical output data, together with other optional data, are then transmitted to the Client.

Independent claim 15 recites a Client-Server method for simulation over a Network by means of a Stateless Communications Protocol, such as HTTP (page 3, paragraph 4 (“A Browser is a Client Program...”)). The system is a (multiple) client-(multiple) server system connected by a computer network, especially the public Internet

(Fig. 1-3C, part 200) The method consists of a user visiting a web site and, in addition to the Client retrieving a web page, receives a token, a “Unique Identifier” (page 6, paragraph 2, (“Some of these differences...”)); page 8, paragraph 3 (“In generating a Unique ID...”); microfiche source code appendix, pages 19, 20, 25-26 “getsessionid.pl”), that uniquely identifies the user to the server simulation system and which may be used to manage server resources or for access control.

To initiate a simulation, a Client first displays a Form, which is transmitted from the Server as Form Creation Data (e.g., HTML <FORM> and associated tags) (Fig. 4B/C; page 8, paragraph 4, (“After the ID has been generated”)). A user enters data into the Client Form and then submits it to the Server, together with the previously received Unique Identifier (Fig. 4E; page 8, paragraph 5 (“In Fig. 4C,...”)). This Form data is received by the Server and merged with other data and simulated to produce output data compatible with Client display (e.g., web browser) instructions. (page 8-9, paragraph 5, “a) The Unique ID is retrieved and checked...”; microfiche pages 21-24 (“websi/get”), 63-4 (“simulate”), 78,79,80,81, 65-7 (“websi/simulatecore.pl”)). During the process, the Unique Identifier permits any previous simulations and processes submitted from the same Client to be identified and terminated (page 9, paragraph 2 (“c) A check is run...”); microfiche appendix page 65, lines 23 (“# Check to see...” thru 40). The output data is then transmitted to the Client.

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**F. Grounds of rejection to be reviewed on appeal.**

1. Whether the IDS of October 19, 2005 should have been accepted without fee and whether Examiner should have directed PRO-SE appellant to pay fee when in fact what was missing was a 37 CFR 1.97(e)(2) statement. This non-entered IDS bears immediately on whether Lawman ('672) should be removed as prior art, thus nominally allowing claims 1-16, while contributing to the argument for non-obviousness by the assignee's documentation disclosing that the commercial implementation of the Lawman prior art in fact has a limitation specifically overcome by the present invention.
2. Whether claims 1-16 are in fact obvious in view of Van Huben et al ('201), Lawman ('672), and Kahn et al ('628).
3. Whether the filing date of the first (before any non-compliant notice) amended appeal brief is correct.

**G. Arguments.****Ground 1      Whether the IDS of October 19, 2005 should have been entered, and whether a fee should have been required.**

Ground 1 concerns evidence presented in rebuttal of examiner's citation of Lawman ('672) as prior art. This evidence was originally submitted on October 19, 2005 - after Appellant's response of Sep. 22<sup>nd</sup>, 2005, but before Examiner's Final Office Action of December 14, 2005, and as such is an IDS pursuant to 609.04(b)(2) and partially conforming to 37 CFR 1.97(c) – an information disclosure filed during an RCE before final and with a 37 CFR 1.97(e) statement that said information only became known to the Applicant 3 months prior to the filing. Applicant only went searching for this information during the writing of his response to the examiner's citation and so met the standard of 37 CFR 1.97(e)(2).

Applicant ultimately gave up trying to get Examiner to acknowledge the facts of 609.04(b)(2), and due to increasing fatigue did not pursue again except on Appeal, where it was attempted to be reinserted as evidence in direct response to Examiner's citation of the prior art. Examiner apparently maintains that an IDS fee is due even under 1.132.

The IDS is important for these reasons:

- 1) Removal of Lawman allows all claims to proceed to allowability.
- 2) The commercial embodiment of the apparatus described by Lawman functions by means of a TCP/IP socket even within a web browser and so is part of the prior art that the present invention was designed to supercede. In particular, connectivity via a web proxy server is not possible and so operation behind most corporate firewalls is not possible, nor is operation by pure HTML form in the case where Java is unavailable.
- 3) Xilinx (the assignee of Lawman '672) was an indirect customer of Rode Consulting, Inc. for the technology of the present invention. They were the ad sponsor of a site on ChipCenter, LLC, that made use

of the present invention, demonstrating Commercial Success, and Long-felt Need since the Xilinx IDS documents indicate an inability for the commercial embodiment of the Lawman technology to perform through proxy servers. Xilinx's own support documentation establishes a nexus between the Lawman '672 and the improvements over the prior art of the present invention (*per in re GPAC, Inc.* 57 F.3d 1573, 35 USPQ2d 1116 (Fed. Cir 1995) and Xilinx's sponsorship of the present invention demonstrates commercial success rebutting any prima facie case of obviousness (*Display Technologies, Inc., v. Paul Flum Ideas, Inc.* 282 F.3d 1340 (Fed. Cir 2002) S1533 & S1542.60)

Nevertheless, a post-final IDS fee of \$180 has been paid with the previous brief amendment in the interest of moving the case forward, and Applicant requests it be refunded if unnecessary.

In light of the fact that the IDS of October 19, 2005 has been addressed by both a 37 CFR 1.97(e)(2) and a fee, Applicant respectfully submits that the IDS be entered. Applicant further respectfully submits that once entered, it should remove Lawman as one of the pillars of the objection and permit the obviousness objection to be reversed.

Ground 2      Whether claims 1-16 are in fact obvious in view of Van Huben et al ('201), Lawman ('672), and Kahn et al ('628).

In the December 14, 2005 Final Office Action, claims 1-16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Van Huben et al, US patent no. 5,950,201 in views of Lawman et al, US patent no 6,324,672 B1 and Kahn et al, US patent no 6,574,628 B1.

The subsidiary issues to this rejection are:

- a) Whether citations of prior art are irrelevant, in error, or apparently misunderstood;

- b) Whether due consideration has been given to arguments made by Applicant, said arguments having typically been rendered “moot in view of new grounds of rejection”, where in some cases the supposed “new” grounds recycle nearly identical citations argued against by Applicant in the preceding Response/Amendment;
- c) General arguments in favor of non-obviousness have not received a response.

2a) Citation of prior art which is are irrelevant, in error or apparently misunderstood.

This is not arguing against individual prior art citations, it is that Examiner's citations do not teach what they purport to and consequently cannot sustain an argument of obviousness.

There are several examples of apparently obscure, irrelevant and otherwise erroneous citations of the prior art. As a first example, from the Final Office Action, page 2, last paragraph, through page 3, first paragraph (first cited prior art in rejection of Claim 1):

*"As per claim 1, Van Huben (201) discloses a method and system for computerized design automation using inter-networking (e.g. World Wide Web) for transmitting design or simulation data over the network with feature limitations very similar to the claimed invention (Abstract, "Summary of the Invention"). According to Van Huben, the design simulation and verification method includes steps of creating*

*- a transmission network including clients, servers, etc. to form a computing and simulation network wherein each network client would carry unique identifier such as addressing to client, account number, etc. (Col. 18, lines 20-25, col. 23, lines 17-49, as example)."*

OA 2005/12/02, pg 2-3.

Technically, the World Wide Web is the collection of hypertext-linked (HTML) files accessible by the stateless, file-oriented HTTP protocol, whereas the Internet is the more general collection of gateways and routers connecting local computer networks (using the most widespread definition of these terms), and accessible by a variety of higher level protocols built on top of IP (the Internet Protocol), of which HTTP is just one. This is an important distinction as most prior-art CAD programs have used protocols such as TCP with intrinsic session state. Thus they used the Internet but not the WWW.

Compatibility with the HTTP protocol permits access to the disclosed methods by means of a web browser located behind a firewall / proxy server which by their nature are typically configured to block TCP / IP communications.

Moreover the specifics of the citation would appear to be erroneous. Claim 1, 10, 15 etc. disclose *automatic* server methods by which a token ("Unique Identifier") is created and transmitted to facilitate an interactive form-driven simulation process. Although an interactive mode for the retrieval of BOM information is disclosed by the citation, this is not "output data [as] functions of a simulation process" as disclosed in Claim 1e, and the reference to the DCS is to a person, not a server method (note use of "him" and "he" in following citation) and so cannot be construed equivalent functionality for a server method:

*"[Status on BOMs is and should be accessible in two ways.] The first is by automatic notification (e.g. e-mail) to the owner as soon as a BOM is invalidated. The second is by means of displaying the BOM either interactively or in report form. This listing shows the overall status of the BOM, and all members of the BOM with their individual status. "*

Citation 3.1a, OA 2005/12/02, pg 3, paragraph 1 (van Huben 5,950,201, col. 18 lines 19-25)

*"Authorities (Section 1.12)*

*The DCS permits the Data Manager to establish a wide variety of authorities which gives him great flexibility in managing the library. Each type of authority can be defined very loosely (the user is authorized for all design components, at all levels, in all versions) to very tightly (the user is*

*authorized on an individual design component basis). The utility for granting authorities works in one of two modes:*

*In one mode the Data Manager is offered a screen in which he can fill in the design component name, type, level, version, user ids, and the type of authority. For any field, except for the user ids, he can default it to "ALL".*

*In the other mode an authority profile can be called up and executed. An authority profile allows the Data Manager to pre-define the types of authorities for a given type of job. For example, profiles may exist for Designer, Technical Leader, Model Builder, etc.. This information is contained in an editable ASC file in which the Data Manager defines the kinds of authority to varying degrees of restriction. Once the profiles are created, the Data Manager uses this mode to either add/delete users to/from the profile and process the changes within the DCS.*

*Authorities exist for the following tasks:*

*Setting Locks (Move, Overlay, Update, ALL)*

*Promoting design components and/or BOMs into levels (Engineering Levels, Release Level.*

*Creating BOMs*

*Initiating Library Processes*

*Setting Pseudo Process Results"*

Citation 3.1b, OA 2005/12/02, pg 3, paragraph 1 (van Huben 5,950,201, col. 23, lines 17-49)

Again, citation 3.1b would appear to ignore the current wording of claim 1a)

"**synthesizing** and **transmitting** said Unique Identifier by means of said Stateless Communications Protocol **to at least one Client...**". Instead, the citation discusses how a Data Manager (a human being "member of the design team", not a server method, as per col. 12, lines 16-18) can **manually** assign privileges to each member of a development team, which is the traditional Information Technology practice in almost perfect contradistinction to the teachings of the present application where all such "accounts" can be created and managed automatically, with an automatically assigned Unique Identifier



for such accounts created and transmitted to and from the client without human intervention.

*"While more powerful situations are contemplated, the system can be installed in a prior art system, like that described in U.S. Pat. No. 5,333,312. Thus, as we show in FIG. 1, the prior art system of the earlier patent, can be employed in this application, by providing the system with new programs. However, such a system, as illustrated by FIG. 1 will be a data processing system 8, which may include a plurality of networks, such as Local Area Networks (LAN), 10 and 32, each of which preferably includes a plurality of individual computers 12 and 30..."*

Citation 3.2a (van Huben 5,950,201, col 9, line 41 to col 9 line 62)

The next citation, 3.2a, (pg.3, par. 2 OA 2005/12/02) "(van Huben '201 col. 9, line 41 to col. 10, line 20)" would appear to be more relevant to the preceding paragraph of the office action but still irrelevant to claim 1, parts b) and c) as it describes the computing topology upon which the disclosed methods execute, without substantively addressing the form transmission and submission protocol of the claim. (Two internet technologies are mentioned, Java and VRML, which are interactive content types that imply nothing about communicating state via stateless protocols). Page 3, paragraph 4 of the 2005/12/02 office action states "...different templates and system platforms such as high level programming languages, PC workstations, UNIX, etc **as claimed...**), where, plainly, Claim 1 is disclosing the Client-Server communication protocol in the restricted context of a simulation. Claim 10 restricts this to graphical output and Claim 15 restricts this to a "Browser".

The next citation, 3.2b, (pg.3, par. 2 OA 2005/12/02) (van Huben '201 cols 44-45, 63) is highly obscure, as it discusses "Automated Library Machines" and how they communicate using middleware to move data in heterogeneous compute environments. This is only related in the remotest possible way (i.e, transmission of data) to the disclosed transmission of a synthesized Unique Identifier back and forth with form data which is the clear intent of clauses b) and c) of Claim 1, and as such is not a relevant reference to the prior art. Also the reference to "structure design data" here appears

misplaced, but might be appropriate to claim 9. We respectfully suggest this is a poor reference, however, appellant readily concedes that form transmission and submission are well-understood features of the client-server prior art.

With regard to citations 3.4a,b,c,d and e (col. 6, lines 54-67; col. 9 line 53 to col. 11 line 55; col. 16, line 33 to col. 18, line 64; col. 20, line 27 to col. 22, line 65; cols. 33, 44-45, 51, 85-88), 3.4a) claims the van Huben Computerized Design Automation Method manages data and integrates just about any repetitive process related to design, development, manufacturing, inventory tracking. But crucially the system of van Huben does not contemplate a **public** demonstration/evaluation capability, particularly where the computation requirements may be substantial as is the case for simulations, and a primary application for the present invention and one that necessitates new methods for allocating finite resources in an uncontrolled environment.

3.4b-e do not address the issue of merging form data with simulation template data. The words "merge" or "merging" appear nowhere within van Huben ('201), and a "Simulation BOM" (col. 21, line 62) is not a template under control of a "Simulation Coordinator (Integrator)" (col. 73, line 60 to col. 74, line 3). This is a list of items that will trigger processes when certain changes occur. Merging of SPICE data into a template, as disclosed, is a known art but would require a fourth reference which would lend additional force to an argument for non-obviousness.

Also in this same paragraph of the office action, the examiner states "In fact, Lawman teaches a web-based design method and system over a computer network to provide a user or client with a unique identifier", and cites Lawman, '672, col 7, lines 50-58:

*"The vendor (Xilinx) places a web page on the internet in a location to which users (e.g., Xilinx customers and potential customers) have access. In the screen display of the user's computer, the web page requests licensing and access passwords, which must be provided by the user in order to configure the design database. In this embodiment, the user interface will not write any output files*

*unless the user accepts the license terms. This type of licensing requirement is well known to those skilled in the software art."*

Citation pg 3, par. 4 (Lawman '672, lines 50-58)

Plainly this says nothing about use of a Unique Identifier transmitted by a stateless protocol such as HTTP and would seem to reference Fig. 0a of the present application which shows a login step. As has been often stated in previous responses, however, the present invention is compatible with, but does not require, a traditional login step, which was only added at the request of a prospective client. Synthesis of the Unique Identifier only optionally depends on a user login.

In fact, the Xilinx XPCI system disclosed by Lawman works by means of a Java applet opening a TCP connection to a host; a traditional client-server mechanism and something that does not work through standard firewall/HTTP proxies (as documented by Xilinx; see IDS in dispute, evidence appendix I2, and previous OA responses). Therefore, the cited reference actually demonstrates one of the limitations of the prior art the present invention was designed to overcome, and therefore helps demonstrate the non-obviousness of the present invention.

Citations 3.4g and 4.1a/b of the 2005/12/02 office action (Lawman '672 Figs. 5-17, cols. 7-10) refer to a "unique identifier" and an applet ID although the word "unique" does not appear anywhere in Lawman '672 and ID only appears in "PCI Device ID" where it is a part of an illustrative example, not part of the preferred embodiment.

We also dispute the triple rejection of distinct claims 4-6 in OA 2005/12/02 pg 5., par. 3 ("As per claims 4-6...") by reference to the non-extant "Unique Identifier" of Lawman '672, although it is conceded that Claims 4 and 5 depend on Claim 1 for their novelty. Claim 6, however, ("The method of Claim 1 wherein the Unique Identifier is made verifiable by means of an internal checksum.") is plainly nowhere to be found in van Huben, Lawman or Kahn.

Similarly, on page 5, par. 2 of the office action of 2005/12/02, “As per claim 3...”, citation 5.1 (Lawman, cols. 6-10). In this case, the phrase “operating system” cannot be found in Lawman, although cross platform support is inherent in the idea of a web browser. However, the claim under discussion (3) is “The method of Claim 2 wherein at least some of said output data is automatically rendered by Client methods **for graphical display.**” Lawman addresses synthesis and download of a package, not the graphical result of a simulation (see Lawman 6,324,672, col 10, line 58 – col 11, line 15), although it is conceded that the issue would be clearer if “graphical display” were referred to as a plot or chart.

With respect to claim 13, pg. 8, p4 OA 2005/12/02 (“As per claim 13, Lawman teaches feature limitations such as getfile, logfile, data type and format for simulation (cols. 7-12).”) Lawman mentions server generation of simulation models and client simulation output, but not server simulations. This is critical because simulations are CPU-intensive tasks, and therefore not trivially shared. The log file mentioned in Lawman is plainly an error log file, not something intended for marketing purposes. It is also ambiguous whether the error logfile is located on the client or server.

In light of the misunderstood, misapplied or irrelevant references of van Huben ('201) and Lawman ('672), Applicant respectfully submits that they cannot sustain an argument of non-obviousness and that the obviousness rejection should be reversed.

2b) Lack of response from Examiner to arguments made by Applicant, instead arguments are rendered “moot in view of new grounds of rejection”, where in some cases the “new” grounds recycle the nearly identical citations argued against by Applicant in the preceding Response/Amendment.

(Applicant assumes the Examiner uses the word “moot” in its common legal sense of “null and void”, as opposed to “debatable”, which was the original sense of the word).

Historically, this has been an issue with all van Huben references which when objected to have been “mooted” as “irrelevant due to new grounds of rejection”. It in no way stands to reason that if a direct rejection of Claim N cites van Huben H1 and “other” citation O1, that a retread of this rejection recycling the **almost identical van Huben citation with the same language** except joined to a new citation O2, and possibly a third citation O3, moots the fundamental objection to van Huben H1 (examples of which above, in Section 1), such as relevance. See Office Actions of April and December 2005, and further in Section 5.

The most recent response to final then simply says all arguments have been “unpersuasive”. Consequently Applicant respectfully submits that the Examiner be asked to respond in detail to of our arguments of September 22, 2005 filed in a response to his Office Action of April 11, 2005.

Per-claim response arguments against citations of prior art and and/or non-obviousness were not addressed in examiner's Final Office Action. (from Applicant's Office Action response of 9/22/2005)

2c. General arguments by Applicant in favor of non-obviousness have not received a response from Examiner.

From the first Reply/Amendment, Applicant has made various general arguments against non-obviousness:

2c(i) The present application Solved an Unrecognized Problem

To the best of Applicant’s belief, at the time of reduction to practice (March-July 1997) there were no web-based CAD/CAE tools designed for public simulation of circuits by means of HTTP and the WWW. To Applicant's knowledge, there would not be any equivalent public systems for at least 3 years. The present invention met with significant

Commercial Success through license via EDTN/ChipCenter until the latter closed its doors, years before a rival technology supported by National Semiconductor appeared.

2c(ii) Unsuggested Modification and Combination Unsuggested

The introduction of state for a HTTP-CGI-based simulation was unsuggested at the time and its advantages unappreciated. In the Applicant's view, this was due to the New and Surprising Result that simulation on the latest PCs was fast enough to be interactive, and to the then widely held (and erroneous) belief that web browsers could not support serious client-server applications.

Among the disclosed references, please consider Lorenz, P. and Schriber, T., "Towards a Web-Based Simulation Environment", Proc. of the 1997 Winter Simulation Conference, Dec. 7-10, 1997), pg 1341 and Regnier and Wilamowski, "SPICE Simulation and Analysis through Internet and Intranet Networks", IEEE Circuits and Devices Mag., May, 1998. Note that both of these references **post**-date the reduction to practice of the present invention, and in the case of Regnier, the present application's provisional filing date also. In other words, not only was public simulation interesting over the internet, but **any** complex (SPICE) simulation.

The former reference (Lorenz, et al) is a fair summary of the state of the art as of Dec. 1997, and the mere fact that an expert in the field at that time would still title a conference paper "***Towards** a Web-Based Simulation Environment*", with the implication that such an environment is yet to arrive, augurs in favor of the non-obviousness of the disclosed methods at the time of their creation.

The latter reference (Regnier, et al) indicates that the subject of SPICE simulation on the Web was still novel enough in 1998 as to be worthy of scholarship. It should be noted that SPI, although still used today, to the Applicant's knowledge never met with commercial success, presumably because it required a login step.

2c(iii) Commercial Acquiescence

In his Office Action of 2005/4/11, the Examiner cited Lawman, et al (6,324,672), which is an outstanding argument in favor of non-obviousness as Xilinx was the sponsor of the ChipCenter site during its initial run. In fact Xilinx's XPCI demonstrates precisely those limitations of the prior art that the present invention was designed to obviate. That Xilinx became a customer, even if indirectly, should mitigate in favor of allowability. (See Additional response to Office communication regarding 09/287,478, mailed 9/26/2005 and attached screenshots).

Please refer to Lorenz, P. and Schriber, T., "Towards a Web-Based Simulation Environment", Proc. of the 1997 Winter Simulation Conference, Dec. 7-10, 1997), pg 1341 and Regnier and Wilamowski, "SPICE Simulation and Analysis through Internet and Intranet Networks", IEEE Circuits and Devices Mag., May, 1998 (NPL IDS 3C and 3B, respectively, received Jan. 14, 2005)

The fact that as late as Dec. 1997 an expert in the field could still title a conference paper "*Towards a Web-Based Simulation Environment*", with the implication that such an environment has yet to arrive, should be taken as evidence of the non-obviousness of the methods disclosed in the timeframe of their creation.

2c(iv) Crowded Art

The field of client-server CAD/CAE software is crowded and competitive and the electronics industry is one of the world's largest, yet none thought to implement a similar system.

2c(v) Different Combination

Even though client-server CAD systems have existed since at least the 1980's, and although the client-server connectivity of such systems necessarily involves state, such state is not inherent in browser-based client-server systems and always operates in a very

different manner and at a application or user account levels, not at the lower network, transport, or session levels.

Many of the examiner's arguments appear left over from before the most recent refinement to the claims, where there is no mistaking the nature of state used to communicate the "Unique Identifier".

2c(vi) Awkward, Involved Combination

To adapt van Huben (201) to perform any interactive task would be awkward in light of Lawman and Kahn. It would be extremely difficult as the output of van Huben is typically complex library manipulations and batch builds of an intrinsically non-interactive nature.

To these should be added that Lawman (Xilinx) serves as Competitive Recognition and Failure By Others (since the present invention solves a problem they failed to), although admittedly, we did not have a license agreement from Xilinx to substantiate that it was the present invention, per se, that was responsible for their interest.

2c(vii) Lack of Prior Implementation

The most general arguments for non-obviousness remain the size of the electronics industry (multiple 100's of billions of dollars in 1997) and the high visibility of the internet in 1997. This Lack of Prior Implementation points to an Assumed Unworkability, which applicant posits as a possible failure to appreciate the cumulative increase in performance of mainstream CPUs, coupled with a widely held underestimation of the potential of the WWW for client-server interaction.

The present invention has no pretensions to claiming the invention of CAD using a web browser, and has in fact disclosed prior art in this regard. The prior art, as was the case with van Huben ('201) and now Lawman ('672), typically requires administered accounts for security and resource limiting purposes, whereas the present invention does not have



these limitations. Consequently CPU-intensive activities such as circuit simulation can be made publicly available, which is a new frontier for CAD. Lawman ('672) specifically discusses the need for login accounts. Unfortunately, the present invention included an optional login step which the applicant would consider removing for clarity if doing so would not be considered "new matter".

In light of the foregoing, Applicant contends that an absence of response to secondary arguments is a tacit admission that they do support non-obviousness. Applicant respectfully submits that this, too, supports a reversal of the obviousness objection.

Ground 3      Whether the filing date of the first (before any non-compliant notice) amended appeal brief is correct.

There is a question as to the filing date of the first pre-notice amendment to this appeal (Amendment A, Express Mailed 1/20/2007, but marked received as 1/23/2007). The filing date may well be irrelevant since the brief was subsequently found to be non-compliant and amended.

A related question is which appeal brief versions have been referenced by Examiner's Notice of Non-Compliant Amendments.

Applicant respectfully requests these matters (and fees and dates where necessary) be reviewed for defect.

## **Conclusions**

For the reasons given, we respectfully hold that the present Application deserves further prosecution on the merits and that if held to an equitable standard with contemporary art, even including art post-dating the reduction to practice of the present invention, claims 1-16 will be found allowable. Appellant respectfully requests that the evidence of October 19, 2005 vs. Lawman '672 be entered and to reverse the obviousness rejection of claims 1-16.

In light of Appellant's PRO-SE standing and in the interest of moving prosecution forward, Appellant also respectfully requests that any further non-substantive errors be overlooked in pursuit of a decision.

Respectfully submitted,

Christian S. Rode  
Applicant, PRO-SE  
6209 Stearns Hill Rd.  
Waltham, MA 02451  
Tel: 781-899-4322 Fax: (call to request)

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## H. **Claims appendix.**

1. A server simulation method, for use with at least one Client communicating with at least one Server over a Network by means of a Stateless Communications Protocol, said simulation method comprising the steps of:

- a) synthesizing a Unique Identifier and transmitting said Unique Identifier by means of said Stateless Communications Protocol to at least one Client, said Unique Identifier of a data type compatible with proxies for said Stateless Communications Protocol and said Unique Identifier to be used by at least one Server for at least one of the purposes of a) maintaining server state including, but not limited to, separation and management of User data, b) limiting access to or limiting use of server resources, c) tracking server usage or d) server security;
- b) transmitting Form Creation Data to said at least one Client;
- c) accepting User Form Data and said Unique Identifier from said at least one Client;
- d) merging said User Form Data from said at least one Client with other data, including simulation template data;
- e) processing said merged data to produce output data, wherein said output data are functions of a simulation and in a format compatible with said at least one Client display instructions;
- f) transmitting said output data to said at least one Client.

2. The method of Claim 1 wherein only steps c-f may be repeated for each new simulation of the same form and wherein only steps b-f may be repeated for each simulation of a new form.

3. The method of Claim 2 wherein at least some of said output data is automatically rendered by Client methods for graphical display.

4. The method of Claim 1 wherein said Unique Identifier is used to keep the data of

each user separate from all other users, with high probability (>99%).

5. The method of Claim 4 wherein said user data is stored in temporary files with a limited lifetime.

6. The method of Claim 1 wherein the Unique Identifier is made verifiable by means of an internal checksum.

7. The method of Claim 1, comprising the following additional steps before processing of said merged data:

- a) retrieving a database record indexed by the Unique Identifier, said database record containing at least an associated simulation usage and timestamp;
- b) creating a new database record when no existing record is found, said new database record indexed by the Unique Identifier and containing at least a simulation usage initialized to zero (0) and a timestamp initialized to the current time;
- c) deleting said retrieved record and backing up at least one step, if said timestamp has become older than a certain threshold;
- d) skipping at least the processing of said merged data, if the simulation usage per unit time has exceeded some threshold;
- e) updating said simulation usage in said database record and saving the updated record in said database.

8. The method of Claim 7, wherein the simulation usage is used to lower the process priority of the simulation.

9. The method of Claim 1, wherein additional steps related to circuit synthesis are inserted just before step b), such steps comprising:

- aa) transmitting Circuit Synthesis Form Creation Data to said Client;
- ab) accepting Circuit Synthesis Form Data from said Client;
- ac) synthesizing a circuit according to said Circuit Synthesis Form Data, where said



synthesized circuit and other temporary files are optionally kept on the Server and indexed by means of the Unique Identifier for eventual use in step 1e);

ad) creating Form Structure Data for use in step 1b), said Form Structure Data containing circuit topology data.

10. An interactive network simulation method, for use with at least one Client communicating with at least one Server over a Network by means of a Stateless Communications Protocol, said method comprising:

synthesizing a Unique Identifier and transmitting said Unique Identifier by means of said Stateless Communications Protocol from a Server to a Client, said Unique Identifier of a data type compatible with proxies for said Stateless Communications Protocol;

transmitting Form Creation Data from a Server to said Client;

transmitting Schematic data from a Server to said Client;

displaying a Form as described by said Form Creation Data and rendering an associated Schematic as described by said Schematic Data by display methods of said Client;

merging of User Form Data from said Client with other data, including simulation template data;

processing by a Server of said merged data to produce at least graphical output data, wherein said graphical output data are functions of a simulation and in a format compatible with said Client's display instructions;

transmitting at least said graphical output data to said Client.

11. The method of Claim 1, wherein said assigned Unique Identifier is associated with superior or inferior privileges, said privileges comprising at least one of: a) access to models and circuits, b) simulation priority and/or maximum simulation time, c) quality/accuracy of simulation methods employed, d) the maximum size and/or persistence of design and/or simulation data.

12. The method of Claim 14, wherein said assigned Unique Identifier is saved on the Client (e.g., a “Cookie”) to permit a simulation or synthesis session to be suspended and resumed at a later time without requiring the user to re-qualify for access.

13. The method of Claim 1, wherein some portion of the said User Form Data is logged together with at least said Unique Identifier for marketing, sales or debugging purposes. Suitable storage mechanisms for said logged data include, but are not limited to: a) HTTP log file (if HTTP GET mechanism used to initiate simulation), b) file of a type and format determined by the simulation software or c) database record.

14. The method of Claim 1, wherein said Unique Identifier is created and transmitted contingent upon the user qualifying for access by successfully conveying appropriate qualification data from the Client to the Server.

15. A server simulation method, for use with at least one Client communicating with at least one Server over a Network by means of a Stateless Communications Protocol, said simulation method comprising the steps of:

- a) synthesizing a Unique Identifier and transmitting said Unique Identifier by means of said Stateless Communications Protocol to at least one Client, said Unique Identifier of a data type compatible with proxies for said Stateless Communications Protocol;
- b) transmitting Form Structure Data to said at least one Client;
- c) accepting User Form Data and said Unique Identifier from said at least one Client;
- d) merging said User Form Data from said at least one Client with other data, including template data;
- e) processing said merged data to produce output data, wherein said output data are functions of a simulation and in a format compatible with said at least one Client Browser instructions;
- f) while processing said merged data to produce output data, simultaneously capable of accepting and processing new User Form Data from said at least one Client, reception

of said new User Form Data with identical Unique Identifier causing present execution of simulation method to be aborted and associated resources freed in favor of processing of said new User Form Data;

g) transmitting said output data to said at least one Client.

16. The method of Claim 1 with the additional ability to execute a plurality of simulation method steps c-f from a single Client concurrently, said plurality being reduced to a single simulation method by aborting all but the method steps corresponding to the last submitted Client User Form Data.

# I. Evidence appendix.

## Appendix II

### Evidence of Partial Reduction to Practice in the April 1997 timeframe (3 pages)

04/18/1997 15:37 5179423293 GUIDEDWAVESOLUTIONS PAGE 31

73 Mount Vernon Street • Reading, MA 01867  
Voice/Fax: (617)-942-WAVE  
sales@guidedwave.com • http://www.guidedwave.com

**Guided Wave Solutions**

"Products That Make Waves"



To: CHRIS RODE From: B.C. WABELL  
Fax: (617)-899-2290 Pages: 3 (including cover)  
Phone: \_\_\_\_\_ Date: 970918  
Re: Wp6 SI CC: \_\_\_\_\_

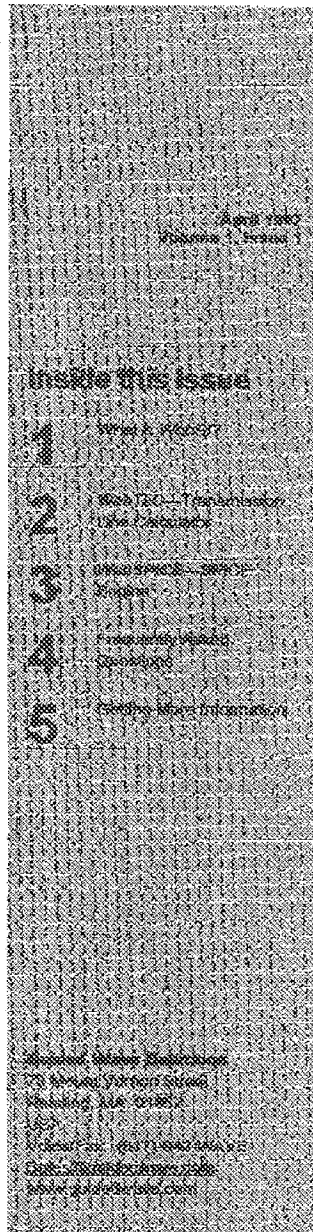
☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

\* Comments:

Chris,  
Here's a stab at it. Looks nice in color.  
BCW

Note 1: 4/18/1997 of transmission

Note:2: Guided Wave Solutions has no interest in the intellectual property that is the subject of this appeal



# WebSI™



## What is WebSI?

A New Product from Guided Wave Solutions and Rode Consulting

WebSI is a collection of software which implements key calculations used in design for Signal Integrity. These components are designed to be easily added to any web page.

WebSI includes a transmission line calculator WebTLC and a SPICE engine WebSPICE which includes lossy and coupled transmission line simulation.

Together they provide a powerful addition to your web page for world-wide, cross-platform use by engineering, applications, and your customers!

## WebTLC™ Transmission Line Calculator

A common task for engineers involved in signal integrity is the analysis of transmission lines. Printed-circuit trace dimensions must be carefully chosen in order to guarantee proper performance

in high-speed digital and RF systems.

The WebSI collection includes a transmission line calculation engine called WebTLC.

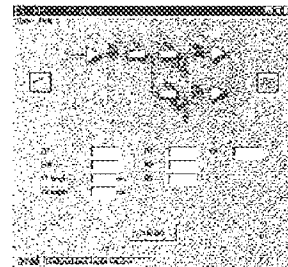
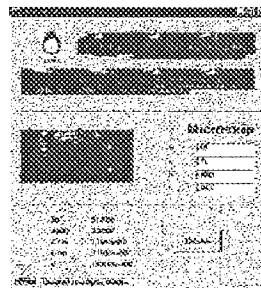
WebTLC solves coaxial line, paired lines, microstrip line, stripline, off-center stripline, coplanar waveguide, and coplanar waveguide with ground. Due to the modular nature of the code other transmission lines can be easily added or a different calculation engine can be substituted.

The figure below illustrates one possible use of this powerful design engine.

## WebSPICE™ SPICE Engine

In addition to the transmission line calculator WebSI includes a powerful SPICE engine. This engine is based on Berkeley SPICE v3.5. Virtually any component can be simulated—Rs, Cs, Ls, FETs, op amps, logic, etc. Transmission lines can be lossless or lossy or coupled.

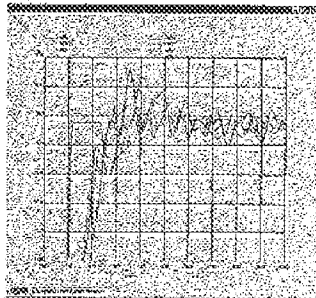
The figure below shows a sample web



April 1997

page built with WebSPICE.

One of the powerful features of WebSPICE is the graphics engine which takes the simulation results and presents them in a graphical format. Because these graphs are opened as separate windows your users can easily make quick comparisons among design approaches.



## Frequently Asked Questions

### What platform does SIWeb run on?

Because WebSI runs through a web page your customers can use it from Windows, Unix, or Macintosh platforms.

The simulation engines themselves run on a Windows PC and can be adapted easily to Unix.

### Couldn't I do this myself?

Sure, you could. Just hire a signal integrity engineer, a software engineer, and a web page designer. Then buy the book *Transmission Line Design Handbook* by Brian C. Wadell and get a copy of SPICE source code. Now write the code, develop a graphics engine, and you are starting to get close.

If you've ever tried to do this you can see the time and money your company can save by using the WebSI engines.

### Can I use a commercial SPICE engine instead?

Maybe. But probably not. You need to consider your licensing arrangements with the vendor and how much your licenses are in use.

A typical single-user SPICE license will cost between \$5k and \$25k. Licensing agreements often prohibit subcontracting or across time-zone use of a program.

Also, if you are currently sharing a license on a network you may find that the additional loading of web-based users may slow down in-house work.

One of the advantages of WebSPICE is that you can run as many copies as you need to support your web-based users.

### How do I handle high usage by my customers?

Because WebSI is PC-based it is easy to expand by adding PCs to your system.

### How Do I Handle Security Issues

Good Question! By making your web site available to customers and other outside users you have opened up your network. The idea is to provide better customer service but the Internet connection is also a potential path for hackers into your corporate data.

The most common solution to the security problem is a "firewall." The firewall provides a barrier through which only specific types of Internet traffic may pass blocking would be hackers. WebSI works with firewalls to maintain the security of your corporate data.

### That sounds great but can you...?

Guided Wave Solutions and Rode Consulting have teamed up to provide complete solutions to your web page requirements for technical content. We would be happy to quote custom software or modifications.

## How to Contact Us

**Guided Wave Solutions**  
73 Mount Vernon Street  
Reading, MA 01867  
sales@guidedwave.com  
http://www.guidedwave.com

### Is a Firewall on the Internet Worthwhile?

There are a lot of things that go into making an Internet site secure. A firewall is just one of them. While the firewall will help protect your site, you must also have a secure Internet connection. If you are using a standard Internet connection, you must have a secure connection to your site. If you are using a secure connection, you must have a secure connection to your site.

While a firewall is a good first step, it is not enough. You must also have a secure Internet connection. If you are using a standard Internet connection, you must have a secure connection to your site. If you are using a secure connection, you must have a secure connection to your site.

## Appendix I2

### SUPPLEMENTAL DECLARATION per 37 CFR 1.132

Declaration traversing objection or rejection (7 pages)

As an applicant in the above-identified application, I declare as follows:

1. I am the sole inventor of the subject matter of the above identified application.
2. I have reviewed and understand the contents of the specification and claims, as originally filed, and as amended by the amendment(s) dated  
3/25/2002 (as revised 6/13/2002), 1/9/2003, 8/28/2003 (as revised 9/29/2003),  
5/14/2004, 12/16/2004, and 9/22/2005
3. I believe that I am the original and first inventor of the subject matter which is claimed and for which a patent is sought.
4. I acknowledge the duty to disclose information which is material to the examination of the application in accordance with 37 C.F.R. Section 1.56(a), and if this oath accompanies or refers to a continuation-in-part application, I acknowledge the duty to disclose material information as defined in 37 C.F.R. Section 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

In partial fulfillment of Section 1.56(a) please consider the following evidence originally submitted as an Information Disclosure Statement October 19, 2005 but lacking a statement that this material was discovered within the prior 3 months (in response to Examiner's citation of Xilinx prior art) and so not considered by the Examiner.

- 4.1 Answer Record #7436: LogiCORE PCI - Error: "XPCI CORE Generator Server transaction failed. Failure cause: 1097...". Xilinx 2005 [retrieved on October 19, 2005]. Retrieved from the Internet:  
<URL: [http://www.xilinx.com/xlnx/xil\\_ans\\_display.jsp?getPagePath=7436](http://www.xilinx.com/xlnx/xil_ans_display.jsp?getPagePath=7436)>
- 4.2 CORE Generator for PCI: The First Web-Based Development Tool for FPGA Design. Xilinx, Inc. 1997 [retrieved on October 19, 2005]. Retrieved from the Internet:  
<URL: [http://www.xilinx.com/xcell/xi25/xi25\\_14.pdf](http://www.xilinx.com/xcell/xi25/xi25_14.pdf)>
- 4.3 CORE Generator Questions & Answers. Xilinx, Inc. 1997 [retrieved on October 19, 2005]. (cont'd)  
Retrieved from the Internet:  
<URL: [http://www.xilinx.com/products/logicore/pci/cg\\_qa.htm](http://www.xilinx.com/products/logicore/pci/cg_qa.htm)>
- 4.4 Email from Mark Noble, Xilinx Technical Support. Xilinx, Inc. Oct 19, 2005
- 4.5 "Why Choose a Monolithic Instrumentation Amplifier". EDTN / Rode Consulting, 1999. [retrieved on October 19, 2005] Note Xilinx sponsorship.

Table of citations 4.1-4.5

Answer Record # 7436: LogiCORE PCI - Error: "XPCI CORE Generator Server transaction failed. Fai - Microsoft Int...

File Edit View Favorites Tools Help

Search Favorites

Address Go

US Site 日本サイト 中国网站 Documentation Download Buy Online Login

**XILINX®** **Support**

Enter Search Terms Search

Enter Search Terms

Entire Site Advanced Search

**Support**

Documentation | Download | Troubleshoot | Contact Support

Xilinx : Support : Answer Display

**Answers Database**

**LogiCORE PCI - Error: "XPCI CORE Generator Server transaction failed. Failure cause: 1097..."**

Answer Record: 7436

Family: Unspecified

Product Line: Unspecified

Part: NotDetermined

Version:

Last Modified: 01/29/03 13:47:32

Status: Active

**Rate This Answer**

☐ Very Useful

☐ Useful

☐ Not Useful

→ Rate

☒ Email this page

☒ Feedback

☒ Print Version

**[ Problem Description: ]**

Keywords: PCI, CORE Generator, COREGen, fail, 1097

Urgency: Standard

General Description:

When I download the PCI Core from the web, the following error is reported:

"XPCI Core Generator Server transaction failed. Failure cause: 1097 URLError (to cgi-script) error: netscape.security.AppletSecurityException: security. Could not resolve IP for host www.xilinx.com. See the trustProxy property.30 Please try again later or notify logicore@xilinx.com."

**Solution 1:**

This error occurs if you are attempting to access the PCI Web CORE Generator from behind a corporate firewall. The Xilinx CORE Generator applet must establish a socket connection directly with the server at www.xilinx.com, and certain corporate firewalls block these types of connections.

There are several ways to work around this problem:

1. Verify with your system administrator that the firewall does not block socket connections.
2. Access the PCI CORE Generator from another ISP that allows socket connections
3. Contact Xilinx Customer support at:  
<http://www.support.xilinx.com/support/clearxpress/websupport.htm>  
Include your PCI Lounge user name, password, and the details regarding the core you wish to download and the firewall problems you are experiencing. The core will be generated and emailed to you.

Feedback Sitemap Trademarks Privacy Legal

Documentation | Download | Troubleshoot | Contact Support

Home | Technology Solutions | Products & Services | Market Solutions | Support

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My Computer

Citation 4.1



**CORE Generator**  
Generate new PCI core

information and design files for registered LogCORE product owners. All users with a valid maintenance agreement can access a demonstration version of the CORE Generator, allowing the evaluation of the GUI and an examination of the various options available for the PCI interface core. In the future, all visitors will be allowed to create functional simulation models for LogCORE PCI designs, allowing users to create and download the model, install it into a custom design, and perform complete system functional verification, all prior to purchasing the core.

**Further information, including the demonstration version of the CORE Generator, can be found at [www.xilinx.com/products/logcore/logcore.htm](http://www.xilinx.com/products/logcore/logcore.htm).**

**CORE Generator for PCI**

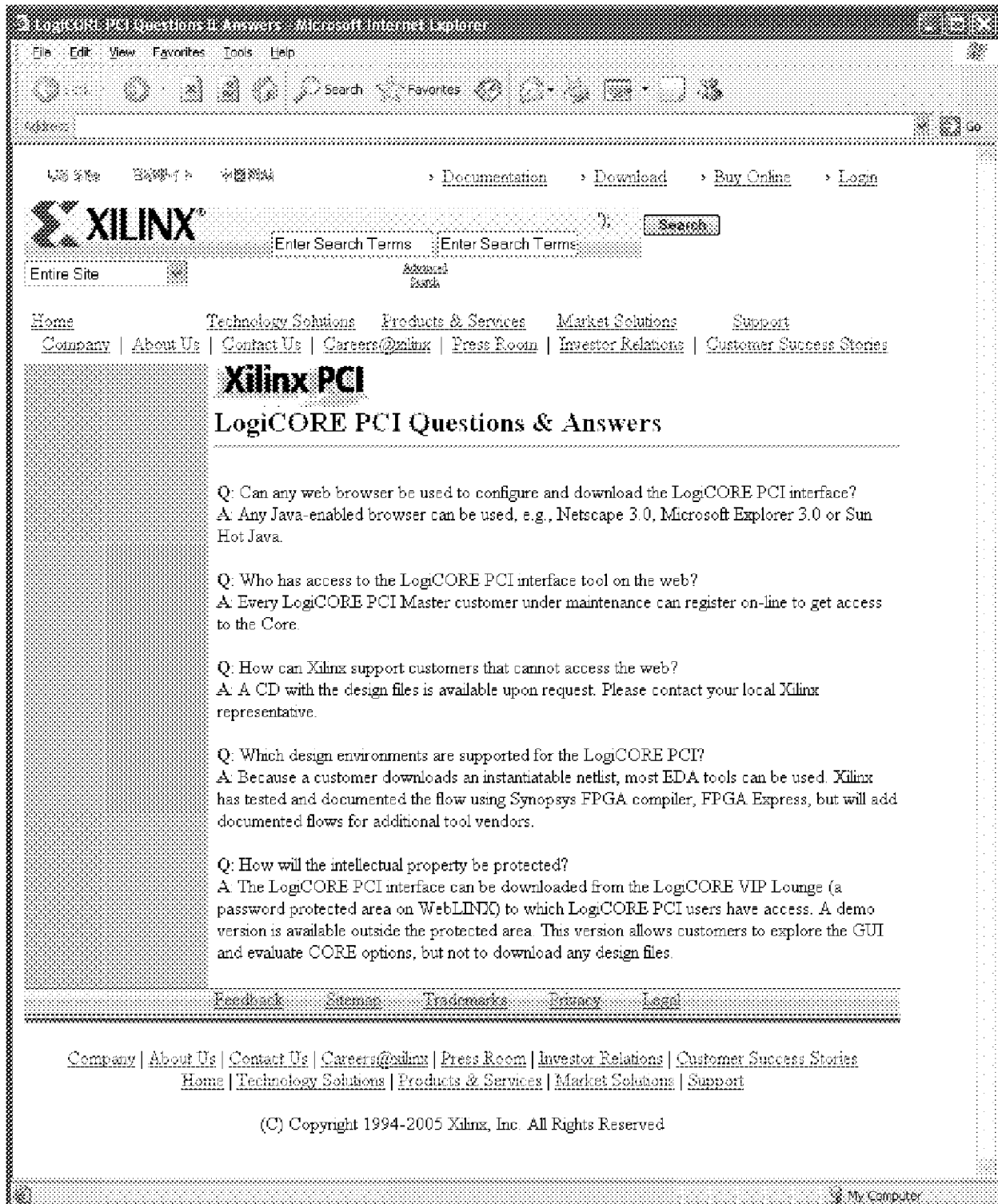
**The First Web-Based Development Tool for FPGA Design**

This spring, Xilinx introduced an innovative, web-based tool that radically simplifies the use of cores for FPGA design. The new, online CORE Generator tool facilitates core usage by enabling designers to instantly access, customize, and download core designs using WebLinx ([www.xilinx.com](http://www.xilinx.com)).

It features an intuitive graphical interface, thereby shortening the learning curve for logic designers. Initially designed to support users of the LogCORE PCI module, the CORE Generator will be extended to support other Xilinx LogCORE and non-party Alliance-CORE products later this year.

**Using CORE Generator**

To create a PCI core, users using the CORE Generator, designers enter their system's parameters by using the program's graphical user interface (GUI). The GUI includes the already-familiar PCI Specification Register table. For example, the GUI includes a copy of the configuration space header from the PCI specification (Figure 1). The user simply enters the



### Citation 4.3

Reply-to: [mark.noble@xilinx.com](mailto:mark.noble@xilinx.com)

FROM: Mark Noble

\*\*\*\*\* The following is an email from Xilinx Technical Support.

\*\*\*\*\* Please do not reply to this email.

\*\*\*\*\* To reply, send email to the address [mark.noble@xilinx.com](mailto:mark.noble@xilinx.com)

\*\*\*\*\* and reference the case number shown below.

CASE\_ID\_NUM: 604367

-----  
Dear Chris,

With regards to your case:-

CASE #604367

RE: PCI core

The PCI core is still available on the PCI web site, and is provided in a ZIP file only, and there is no WEB CONFIGURATION tool for the PCI core, other than the UCF Generator.

The reason for this is that the PCI core is now included with in the COREGEN tool, as of ISE 7.1i SP2 with IP UPDATE 2. Coregen is capable of providing the PCI core, as well as being able to configure the core with out all the problems that the WEB CONFIGURATION tool had.

The PCI core in coregen is controlled by means of a license file which can be obtained from the PCI lounge once the core is purchased. If you have not purchased the core then you can still generate the PCI core but will only be able to get the simulation models. If you require a hardware time out evaluation version of the core, then you will need to request a license file for this.

Full information on how to generate an evaluation version of the PCI core can be found at the following web link:-

[http://www.xilinx.com/ipcenter/ipevaluation/pci\\_evaluation.htm](http://www.xilinx.com/ipcenter/ipevaluation/pci_evaluation.htm)

Best Regards

Mark Noble  
Tech Lead  
Xilinx Technical Support

-----  
// For all new technical support issues not in reference to the above  
\\ case, please contact the appropriate support office below. Also  
// please visit our WEB site at <http://support.xilinx.com> for the latest  
\\\_\\ Xilinx documentation and application information.  
(<http://support.xilinx.co.jp> for Japanese)

For Customer Education information, please visit  
<http://www.support.xilinx.com/support/education-home.htm>

For Technical Support contact information, please visit  
[http://www.support.xilinx.com/support/services/contact\\_info.htm](http://www.support.xilinx.com/support/services/contact_info.htm)

Citation 4.4

File Edit View Favorites Tools Help

Why choose a monolithic instrumentation amplifier (XILINX) Microsoft Internet Explorer

Sponsored by **XILINX**

Go to: Introduction

**Why choose a monolithic instrumentation amplifier?**

The symbol for an instrumentation amplifier may look similar to that of an op-amp, and may have a broadly similar function: differential amplification of its inputs, but it is an entirely different creature.

An op-amp is designed to be used in a negative feedback topology, both to achieve a uniform gain, and to compensate for amplifier imperfections. An instrumentation amplifier, on the other hand, is used for open-loop operation, and is designed to be very different from the op-amp. It provides a smaller gain that is typically set by one external resistor. It is often used as a "pre-amp" for signals that are too low-level for an ordinary op-amp buffer.

Instrumentation amplifiers can be built out of individual op-amps. We'll call this the "discrete" implementation. However, there are many reasons that a single-chip implementation is to be preferred. Among these are: a smaller footprint, a single component, no manually matched, and their specifications tend to track better with temperature, since they share a common substrate.

We'll look at several common instrumentation amplifier problems and how they are affected by the amplifier technology. In each section there'll be links like this:

For me!

Reset

...that pre-configures the form on the right to demonstrate a topic in the text. You'll still need to click on "Simulate" to see the results. Feel free to change the input values, but be aware that the results you may occasionally experience failed simulations. If this happens try altering some of the values slightly and resimulating.

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RCI

Normal

Pre-Triac

Filter

Range

TEST PARAMETERS

Source	1000	Hz	5000	Hz	Range	0
Gain	1	Hz	500K	Hz	Range	0
Gain	1	Hz	500K	Hz	Range	0
Gain	1	Hz	500K	Hz	Range	0

IA / DA PARAMETERS

Gain	10	Hz	5000	Hz	Range	0
Gain	10	Hz	5000	Hz	Range	0
Gain	10	Hz	5000	Hz	Range	0
Gain	10	Hz	5000	Hz	Range	0

OPAMP PARAMETERS (OPE AMP D325577 MONOLITHIC.COM)

Gain	10	Hz	5000	Hz	Range	0
Gain	10	Hz	5000	Hz	Range	0
Gain	10	Hz	5000	Hz	Range	0
Gain	10	Hz	5000	Hz	Range	0

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Gain	10	Hz	5000	Hz	Range	0

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RCI

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Pre-Triac

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Gain	10	Hz	5000	Hz	Range	0

OPAMP PARAMETERS (OPE AMP D325577 MONOLITHIC.COM)

Gain	10	Hz	5000	Hz	Range	0
Gain	10	Hz	5000	Hz	Range	0
Gain	10	Hz	5000	Hz	Range	0
Gain	10	Hz	5000	Hz	Range	0

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RCI

Normal

Pre-Triac

Filter

Range

TEST PARAMETERS

Source	1000	Hz	5000	Hz	Range	0
Gain	1	Hz	500K	Hz	Range	0
Gain	1	Hz	500K	Hz	Range	0
Gain	1	Hz	500K	Hz	Range	0

IA / DA PARAMETERS

Gain	10	Hz	5000	Hz	Range	0
Gain	10	Hz	5000	Hz	Range	0
Gain	10	Hz	5000	Hz	Range	0
Gain	10	Hz	5000	Hz	Range	0

OPAMP PARAMETERS (OPE AMP D325577 MONOLITHIC.COM)

Gain	10	Hz	5000	Hz	Range	0
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Gain	10	Hz	5000	Hz	Range	0

OPAMP PARAMETERS (OPE AMP D325577 MONOLITHIC.COM)

Gain	10	Hz	5000	Hz
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This material was not found as part of a general search, but in specific response to examiner's citation of Lawman 6,324,672 (assigned to Xilinx), and therefore more directly connected to Examiner's objections and the content of Applicant's response. To summarize an earlier office action response:

- 1) Citation 4.1 demonstrates the inability of the Xilinx LogiCORE PCI tool to work through firewalls, which is not a limitation of the present invention;
- 2) Citation 4.3 demonstrates a requirement for registration by users, which is not a limitation of the present invention;
- 3) Citation 4.4 suggests a lack of commercial success of the LogiCORE, as it was later withdrawn as a web tool;
- 4) Citation 4.5 demonstrates that Xilinx was a sponsor of ChipCenter's deployment of the present invention (Articles with embedded interactive simulations); Applicant holds therefore that the citation of Xilinx is in fact an excellent argument *in favor* of nonobviousness since Xilinx effectively licensed the technology of the present invention in preference to using their own.

Applicant had to this point considered the IDS as a neutral mechanism for disclosure of art both prior art and other materials, where 37 CFR 1.132 may have been more appropriate for the latter. In this vein, Applicant would like to point out that the IDS of 1/15/2005 (filed in conjunction with RCE) includes material that *postdates* reduction to practice so as to emphasize the non-obviousness of the present invention at the time of its conception and/or reduction to practice.

5. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Signature of Inventor

\_\_\_\_\_

Printed Name of Inventor

Christian S. Rode

Date

1/11/2010

**J. Related proceedings appendix.**

None.

**K. Supplemental Declaration regarding Appeal Brief**

Evidence, as filed 12/20/2006 and amended 1/19/2007, 3/15/2007, 1/22/2008,  
6/26/2009, 8/26/2009 and 1/11/2010

As an applicant in the above-identified application, I declare as follows:

1. If only one inventor is named below, I am a sole inventor, and if more than one inventor is named below, I am a joint inventor with the inventor(s) named below of the subject matter of the above identified application.
2. I have reviewed and understand the contents of the specification and claims, as originally filed, and as amended by the amendment(s) dated .
3. I believe that I, and the other inventor(s) named below if more than one inventor is named below, am the original and first inventor or inventors of the subject matter which is claimed and for which a patent is sought.
4. I acknowledge the duty to disclose information which is material to the examination of the application in accordance with 37 C.F.R. Section 1.56(a), and if this oath accompanies or refers to a continuation-in-part application, I acknowledge the duty to disclose material information as defined in 37 C.F.R. Section 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.
5. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Signature of Inventor

\_\_\_\_\_

Printed Name of Inventor

Christian S. Rode

Date

1/11/2010